

TEST NAME: 7SP-1 Edwards
TEST ID: 1709128
GRADE: 07 - Seventh Grade
SUBJECT: Mathematics
TEST CATEGORY: My Classroom

Student: _____

Class: _____

Date: _____

1. **Four people watching a dog show were surveyed at random to determine the most beautiful breed of dog. Which reason best shows why this sample is biased?**
 - A. The sample did not include the dog owners.
 - B. The sample size was too small to be accurate.
 - C. The sample size was too large to be accurate.
 - D. The sample did not include every person at the dog show.

2. **A state park manager decided to ask every tenth person entering two different state parks on a weekend to complete a brief survey. Which statement is most likely to be true?**
 - A. The sample is not random.
 - B. The sample will probably give accurate survey results.
 - C. The sample is not a good representation of the population.
 - D. The sample will produce bias data.

3. **Ms. Murray is in charge of the school play at Main High School. She will ask a sample of 40 students which of three plays they think should be performed. Which of the groups of students below should she ask to get the most representative sample?**
 - A. 40 students from grade 12
 - B. 10 students from each grade for grades 9 through 12
 - C. the first 40 students who arrive at school Monday morning
 - D. 10 girls from each grade for grades 9 through 12

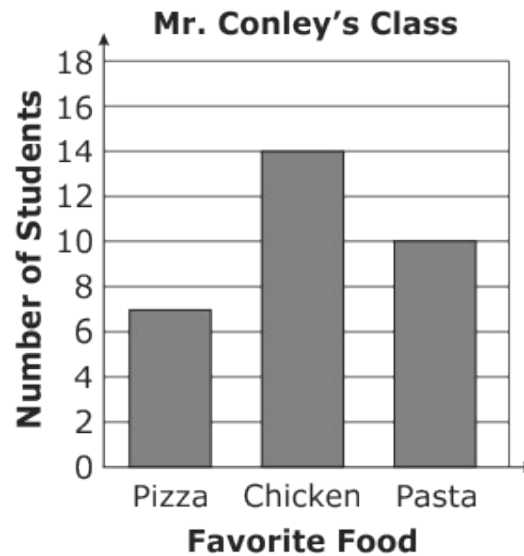
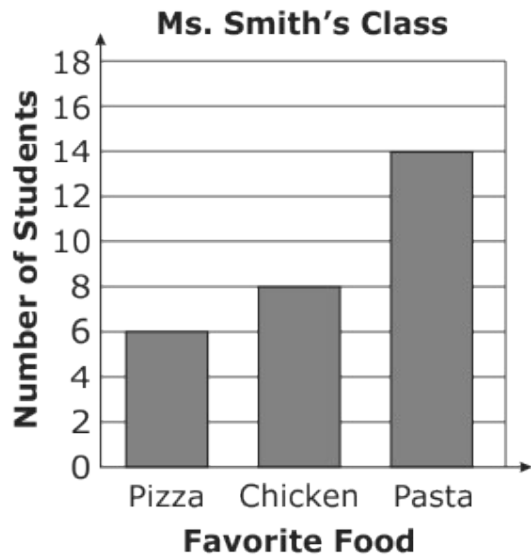
4. Candice surveyed students about the average number of hours they spend on homework each night. The results are in the table below.

Number of Hours	Responses
less than 1	12
1	25
2	18
3	10
4	7
more than 4	3

Which statement is true?

- A. Less than $\frac{1}{2}$ of the students spend 1–2 hours a night on homework.
- B. Less than $\frac{1}{3}$ of the students spend 2–3 hours a night on homework.
- C. About 25% spend 1 hour a night on homework.
- D. About 25% spend 3 or more hours a night on homework.

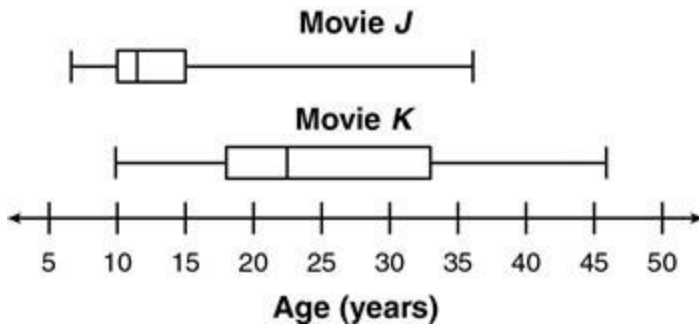
5. Ms. Smith and Mr. Conley asked the students in their class which food they liked best: pizza, chicken, or pasta. The results are shown below.



How many more students liked chicken and pizza as their favorite food in Mr. Conley's class compared to Ms. Smith's class?

- A. 6
 - B. 7
 - C. 9
 - D. 14
6. **Dawson is on the Student Council. He wants to have new items placed on the school lunch menu. He will ask a sample of 18 students what two new foods should be added to the school lunch menu. Which group will provide the most representative sample?**
- A. 18 sixth-grade students
 - B. the first 18 students who get off the bus
 - C. 3 students from each grade at the school
 - D. 3 students from each grade taking music lessons at the school
7. **A principal wants to take a survey to determine which type of juice is preferred by most of the students at the school. Which method would give the best representative sample?**
- A. pick every 8th student that is listed on the student roster for the school
 - B. pick 8 students at random from one class
 - C. survey every 8th student who eats in the cafeteria at lunch
 - D. survey 8 members of the school band

8. Mrs. Cruz is conducting a survey to find out the favorite snack of fifth and sixth graders. She will ask a sample of 100 students. Which of the groups below should be surveyed to get the best representative sample?
- A. 100 students at the movie theater
 - B. the first 100 students who go to a local baseball game
 - C. 5 students from each of the 20 local elementary schools
 - D. 20 students from each of the 5 local fifth- and sixth-grade schools
9. The box plots shown represent the ages of a random sample of 100 people who attended Movie J and 100 people who attended Movie K.



Which statement best compares the ages of the people attending Movie J and Movie K?

- A. The median age of the people attending Movie J is about 2 times the median age of the people attending Movie K.
- B. The median age of the people attending Movie J is about 3 times the median age of the people attending Movie K.
- C. The interquartile range of the ages of the people attending Movie J is about $\frac{1}{2}$ the interquartile range of the ages of the people attending Movie K.
- D. The interquartile range of the ages of the people attending Movie J is about $\frac{1}{3}$ the interquartile range of the ages of the people attending Movie K.

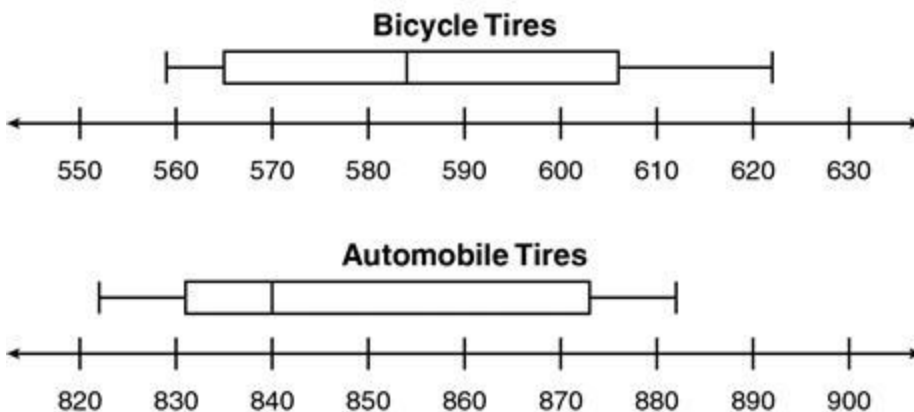
10. The chart below shows the number of points scored by two different basketball teams.

Team 1	Team 2
101	77
97	95
85	103
98	88
114	91

What is the difference in the mean absolute deviation between the two teams' points?

- A. 0.16
B. 0.82
C. 7.72
D. 8.20
11. The diameters, in millimeters, of some bicycle tires and automobile tires are summarized in the box-and-whiskers plots.

Diameters of Tires



Approximately how many times the difference between the medians of the automobile tires and the bicycle tires is the range of the bicycle tires?

- A. 4
B. 6
C. 40
D. 60

12. The weights, in pounds, of nine randomly selected students from two different seventh-grade classes were recorded.

Mr. Roan's Class			Mrs. Yancey's Class		
82	96	77	90	92	79
82	83	84	83	95	82
85	75	91	83	98	73

Which is true when comparing the weights of the students in the two different classes?

- A. The mean weights of both classes are the same.
- B. The median weights of both classes are the same.
- C. The median weight in Mr. Roan's class is less than the median weight in Mrs. Yancey's class.
- D. The mean weight of Mr. Roan's class is greater than the mean weight of Mrs. Yancey's class.
13. Ten participants in a health study each ran a distance of 1 mile. The pulse rates of the participants were recorded before and after the run. The pre-run and post-run pulse rates, in pulses per minute (ppm), are shown in the table below.

Participant Pulse Rates (ppm)

Participant	1	2	3	4	5	6	7	8	9	10
Pre-Run	65	72	71	70	72	70	71	67	70	72
Post-Run	87	95	96	101	110	104	100	101	90	96

Based on the data in the table, which statement is true?

- A. The pre-run mean and median are the same value.
- B. The post-run mean and median are the same value.
- C. The post-run mean is 30 ppm greater than the pre-run mean.
- D. The post-run median is 30 ppm greater than the pre-run median.

14. The table shows the number of homework problems assigned each day for a week in 2 math classes.

Seventh Grade Class

Day	Number of Problems
Monday	10
Tuesday	15
Wednesday	10
Thursday	15
Friday	35

Eighth Grade Class

Day	Number of Problems
Monday	10
Tuesday	20
Wednesday	30
Thursday	20
Friday	30

What is the conclusion about the seventh and eighth grade math classes based on the data?

- A. Seventh grade math classes do more homework than eighth grade math classes.
- B. The median number of problems assigned in eighth grade classes is less than the median number of problems assigned in seventh grade classes.
- C. The average number of problems assigned in eighth grade classes is more than the average number of problems assigned in seventh grade classes.
- D. The range of the number of homework problems assigned in eighth grade is greater than the range of the number of problems assigned in seventh grade.

15. The table shows the ending stock price for two companies for five days.

Company A's Stock Price	\$25.28	\$27.50	\$26.25	\$29.58	\$30.25
Company B's Stock Price	\$26.50	\$32.41	\$25.65	\$29.41	\$31.65

Based on this information, which statement is true?

- A. The mean stock price for Company A is greater than the mean stock price for Company B.
 - B. The mean stock price for Company B is greater than the mean stock price for Company A.
 - C. The median stock price for Company A is greater than the median stock price for Company B.
 - D. The mean stock price for Company B is greater than the median stock price for Company B.
16. **Melissa thinks that 3 of the 5 pens in her backpack are blue. She conducts an experiment by pulling out a pen from her backpack, recording the color, and then returning it to her backpack.**

Pen color	Times Selected
Black	12
Red	2
Blue	1

Which conclusion best describes her results?

- A. 25% of the pens are black.
- B. 17% of the pens are red.
- C. There are very few blue pens.
- D. There are very few black pens.

17. Lillie put some marbles into a bag. She says that picking a red marble out of the bag without looking has a probability of $\frac{1}{2}$. Lillie closes her eyes and draws out a marble, records its color, and then places it back in the bag. In 4 draws, Lillie selects 2 red marbles and 2 white marbles. How does the probability of drawing a red marble compare to the actual results?
- The probability of drawing a red marble matches the actual results.
 - The probability of drawing a red marble is less than the actual results.
 - The probability of drawing a red marble is greater than the actual results.
 - The probability of drawing a red marble cannot be compared with the results because more than 2 marbles were drawn.
18. A number cube, labeled 1 through 6, will be rolled one time. What is the likelihood of rolling a 6?
- impossible
 - unlikely
 - likely
 - certain
19. There are 10 boys and 5 girls in the debate club at West Middle School. The principal randomly selects one student from the debate club to represent the school in a competition. What is the probability that the selected student is a boy?
- $\frac{1}{10}$
 - $\frac{1}{3}$
 - $\frac{1}{2}$
 - $\frac{2}{3}$
20. A cube has 6 faces that are red, yellow, or blue. Maggie rolls the cube 20 times and records the color facing up.

Color	Number of Occurrences
Red	7
Yellow	6
Blue	7

Based on the data, which is the best conclusion about the colors of the cube?

- The cube has 1 red face, 4 blue faces, and 1 yellow face.
- The cube has 2 red faces, 2 blue faces, and 2 yellow faces.
- The cube has 2 red faces, 3 blue faces, and 1 yellow face.
- The cube has 4 red faces, 1 blue face, and 1 yellow face.

21. Mr. Herrera's class has 13 girls and 7 boys. If all the students in Mr. Herrera's class are present, what is the probability that the first student randomly selected to answer a homework question will not be a boy?
- A. $\frac{7}{20}$
 - B. $\frac{1}{2}$
 - C. $\frac{7}{13}$
 - D. $\frac{13}{20}$
22. Anita tossed 3 quarters at the same time. What is the probability that all 3 quarters will land on heads?
- A. $\frac{1}{8}$
 - B. $\frac{3}{8}$
 - C. $\frac{1}{6}$
 - D. $\frac{1}{12}$
23. A meteorologist predicted a 20% chance of rainfall today. Which statement describes the likelihood of rainfall today?
- A. Rain is likely to fall today.
 - B. Rain is unlikely to fall today.
 - C. Rain is certain to fall today.
 - D. Rain is certain not to fall today.
24. Marshall has 8 mystery books, 4 fantasy books, and 6 reference books on a shelf. Marshall reaches for a book on the shelf, and without looking, chooses only one book. What is the probability that he will choose a reference book?
- A. $\frac{3}{4}$
 - B. $\frac{2}{3}$
 - C. $\frac{1}{3}$
 - D. $\frac{1}{4}$

25. Henry is playing a game using a spinner with 6 wedges numbered 1 through 6. He spins the spinner and gets to move forward spaces only if the spinner lands on an even number. The table below records Henry's results while playing the game. When the spinner lands on an even number it is noted as a successful outcome.

Number of Spins	Number of Successful Outcomes
100	25

Based on these results, which statement about the sizes of the wedges on the spinner is **most likely**?

- A. The even-numbered wedges are smaller than the odd-numbered wedges.
- B. The odd-numbered wedges and the even-numbered wedges are the same size.
- C. The even-numbered wedges are four times larger than the odd-numbered wedges.
- D. There are 3 times as many odd-numbered wedges as there are even-numbered wedges.